TELECOMMUNICATIONS AND RADIO ENGINEERING

CONTENTS FOR 1986

NUMBER 1

	Page English	Page Russian
PART 1		
TELECOMMUNICATIONS		
Volume 40		
CIRCUIT THEORY. SIGNAL CONVERSION AND AMPLIFICATION		
V.A. Kisel and N.A. Chashuk: Broadband Local AFC Correctors with Automatic Tuning	1	53
V.M. Kibakin and S.N. Kulygin: The Output Power of a Transistor Amplifier with Protection Devices	6	57
V.A. Zheltikov: Investigation of the Residual Voltage at the Output of an Optron Phase Detector	12	62
A.A. Kayatskas and V. Yu. Pachesa: Computer-Aided Management in the Development of Rural Telephone Networks	16	17
A.P. Bayev and V.M. Perlin: The ZONA-15 Equipment for Rural Primary Networks	21	24
L.A. Chernishev and V.M. Shtein: Ring Structures in Rural Digital Distributing Transmission Systems	28	29
V.N. Maglitzkiy, O.N. Porokhov and I.V. Sitnyakovskiy: The Future Prospects for Using Digital Transmission Systems for Open-Wire Subscriber Lines	33	33
M.I. Strukalo: The Statistical Characteristics of Crosstalk Noise in the Links of Rural Digital Transmission Systems	39	38
MULTICHANNEL RADIOCOMMUNICATIONS		
N.I. Kalashnikov and P.G. Kaplunov: Estimate of the Operating Stability of Digital Radio-Relay Links under Frequency-Selective Fading Conditions	45	47
PART 2		
RADIO ENGINEERING		
Volume 41		
L. Ye. Varakin: Efficiency of Mobile Communications with Frequency Modulation and Spread-Spectrum Signals	51	3
BRIEF COMMUNICATIONS		
Ya. A. Fomin and A.V. Savich: Optimization of a Recognition System for Multidimensional Normal Populations	56	8
Yu. N. Gorbunov: Nonparametric Radar Signal Detectors with Randomization of the Detection Criterion	59	11
I. Ya. Kremer and V.I. Kostylev: Detection of an Extended Radiation Source with an Unknown Radiance Distribution in the General Case	62	13
M.I. Kharitonov: Noise Immunity of Magnetic Recording Systems in the Presence of Multiplicative Interference	64	15

TELECOMMUNICATIONS AND RADIO ENGINEERING

CONTENTS FOR 1986

NUMBER 1

	Page English	Page Russian
PART 1		
TELECOMMUNICATIONS		
Volume 40		
CIRCUIT THEORY. SIGNAL CONVERSION AND AMPLIFICATION		
V.A. Kisel and N.A. Chashuk: Broadband Local AFC Correctors with Automatic Tuning	1	53
V.M. Kibakin and S.N. Kulygin: The Output Power of a Transistor Amplifier with Protection Devices	6	57
V.A. Zheltikov: Investigation of the Residual Voltage at the Output of an Optron Phase Detector	12	62
A.A. Kayatskas and V. Yu. Pachesa: Computer-Aided Management in the Development of Rural Telephone Networks	16	17
A.P. Bayev and V.M. Perlin: The ZONA-15 Equipment for Rural Primary Networks	21	24
L.A. Chernishev and V.M. Shtein: Ring Structures in Rural Digital Distributing Transmission Systems	28	29
V.N. Maglitzkiy, O.N. Porokhov and I.V. Sitnyakovskiy: The Future Prospects for Using Digital Transmission Systems for Open-Wire Subscriber Lines	33	33
M.I. Strukalo: The Statistical Characteristics of Crosstalk Noise in the Links of Rural Digital Transmission Systems	39	38
MULTICHANNEL RADIOCOMMUNICATIONS		
N.I. Kalashnikov and P.G. Kaplunov: Estimate of the Operating Stability of Digital Radio-Relay Links under Frequency-Selective Fading Conditions	45	47
PART 2		
RADIO ENGINEERING		
Volume 41		
L. Ye. Varakin: Efficiency of Mobile Communications with Frequency Modulation and Spread-Spectrum Signals	51	3
BRIEF COMMUNICATIONS		
Ya. A. Fomin and A.V. Savich: Optimization of a Recognition System for Multidimensional Normal Populations	56	8
Yu. N. Gorbunov: Nonparametric Radar Signal Detectors with Randomization of the Detection Criterion	59	11
I. Ya. Kremer and V.I. Kostylev: Detection of an Extended Radiation Source with an Unknown Radiance Distribution in the General Case	62	13
M.I. Kharitonov: Noise Immunity of Magnetic Recording Systems in the Presence of Multiplicative Interference	64	15

	Page English	Page Russian
Yu. S. Shchedrov: Investigation of a PLL System with Symmetric Phase-Shift Keying of the Tunable Generator	68	19
K.A. Semenov and V. Ya. Vasil'ev: A Generalized Graphical-Analytical Method of Designing Filters Using Computer Graphics	72	22
V.I. Krotov, A.N. Levterov and I.V. Malyshev: A Gunn-Diode Self-Excited Harmonic Generator	73	24
G.V. Petrov and A.V. Khramov: Synchronization of FET Generators	76	26
E.D. Lotokova and S.V. Kosyakin: Microstrip Microwave Low-Pass Filters with a Zolotarev Attenuation Characteristic	79	28
Yu. A. Fedotov: Characteristics of Frequency Multipliers Employing Oppositely Connected Varactors	82	32
N.A. Bol'shakov: Distribution and Moments of a Sum of Random Digital Signals	86	42
V.G. Bartenev and A.N. Loginov: An Autoregression Approach to Invariant Detection	89	45
L.V. Labunets: Distribution of the Duration of Overshoots of a Non-stationary Normal Process	92	47
M.B. Sverdlok, A.A. Nazarenko and V.L. Yevseyev: Optimization of Continuous FFT Schemes in High-Speed Convolution Algorithms	95	51
L.A. Ovcharenko and E.V. Chuchin: The Error Probability when Receiving a Signal Element in a Channel with Concentrated Interference	100	55
A.A. Bessarabova: Shift Theorems for *M*-Sequence Decimations	103	58
V.N. Bronnikov: Investigation of the Noise Immunity of Digital-Analog Methods of Analog Data Transmission with Signal Enhancement	106	61
M.A. Ivanov, B.I. Makarenko and I. Ya. Yakovlev: Phase-Frequency Modulation of Digital Signals	108	62
L.G. Zhuravin, E.I. Semenov and V.A. Troshkin: Rejection of Anomalous Errors when Receiving Samples in Telemetering Systems	111	65
V.N. Kharchenko and A.I. Prikhod'ko: Optimum Reception when there is Fading and Signal-Delay Dispersion	115	51
V.S. Golub: Generalization of Signal Sampling with AM and TM Readouts	119	55
D.L. Burachenko and V.F. Yerokhin: An Algorithm for the Separation of Additive Nonorthogonal Synchronous Signals	123	58
V.M. Safonov: Programmable Microprocessor Calculation of Phase-Lock AFC Systems	124	60
N.F. Maksakov: Correlation Function of the Output Signal of a Transfer Array with a Discrete Primary Element	128	63
B. Yu. Kapilevich and A. Ye. Sedakov: A Compact Microwave Filter of Improved Selectivity	132	67
A.I. Burya: Investigation of Dielectric Waveguide Attenuators	134	69
Ye. N. Voronin: Selective Reconstruction of Space-Time Spectra	136	71
V.V. Zakharov: Use of a Statistical Model of Radio-Wave Propagation when Designing Radio Networks in the 30-1000 MHz Band	139	74
A.V. Krivosheykin: Design of Radioelectronic Devices Taking into Account the Requirements for Parameter Accuracy	144	78
V.P. Volchkov, V.P. Dmitriev: Modeling of an Elementary Volstron	147	85
R.G. Tolparev and E.V. Borisov: The Comparative Noise Immunity of Character and Optimum Detectors	150	87

NUMBER 2

PART 1
TELECOMMUNICATIONS
Volume 40

ANTENNA-FEEDER DEVICES

K.P. Kharchenko, V.P. Denidov and V.M. Timofeyev: Experimental Investigations of a Version of a Traveling-Wave Antenna	1	51
A.F. Mikheyev: The Inductance of a Frame Antenna with a Ferrite Core	4	54

	Page English	Page Russian
POWER SUPPLIES		
S.G. Buzykin, A.G. Polikarpov and E.F. Sergienko: A Power Supply Based on a Half-Wave Voltage Converter	8	57
COMMUNICATION NETWORK AND SWITCHING		
B.P. Borisov: Automatic Maintenance Control of a Primary Transmission Line Network	14	15
OPTICAL COMMUNICATION SYSTEM		
M.A. Plotkin and Yu. A. Zingerenko: A Digital Fiber-Optics Transmission System for Intrazonal Networks	18	18
A.S. Belanov, Ye. M. Dianov, V.I. Krivenko and A.S. Kurilov: Data Transmission along Single Mode Optical Waveguides with First-Order and Second-Order Compensated Dispersion	26	24
ANTENNAS		
V.I. Komissarov: The In-Phase Wave in the Output Balanced Circuits of High-Power SW Transmitters	31	38
S.V. Voinov and Ts. I. Tsanev: A Method of Protecting Short-Wave Antennas from Spontaneous Flare Discharges	38	43
Ya. D. Glazman, Yu. A. Erukhimovich and I.L. Nepomnyashchii: A Horn Antenna with Diagonal Excitation of the Aperture	41	45
SIGNAL GENERATION AND CONVERSION		
V.A. Levin and V.R. Nikogosyan: Analysis of the Steady-State Mode of Operation of a Synchronized Saw Generator	46	50
D.L. Tamm and A.A. Shipitsyn: Parasitic Phase Modulation in Tuned Single-Sideband Tube Amplifiers	50	53
PART 2 RADIO ENGINEERING Volume 41		
Yu. F. Pelegov: The Synthesis of Signals, Networks, and Antennas Based on New Sets of Functions with Double Orthogonality	53	3
BRIEF COMMUNICATIONS		
O.V. Golovin and V.N. Repinskiy: Structural Adaptation in a Communications System with a Repeater	59	9
S.S. Vaulin and L.G. Dorosinskiy: Signal Detection in the Presence of Interference in a Radar System with a Synthesized Aperture	61	11
G.G. Dzhavadov: Compensation of Angle-Measuring Errors due to Phase-Wavefront Distortions	65	14
G.V. Aleshin and V. Ye. Pustovarov: Theoretical Fundamentals of the Standardization of Components of Radio-Engineering Systems	68	17
A.I. Tyazhev: Modem Design for *F1*, *F3*, *F6*, and *F9* Signals using a Digital PLL AFC System	71	20
A.N. Fadeyev: Transients in Digital Computer Synthesizers of Readouts when the Initial Phase Varies	74	22
A.V. Bondarenko and V.V. Bondarenko: Sensitivity of Multipole Arc Circuits with Nonlinear Delayless Components	77	25
L. Sh. Alter: An Analytic Model of the Susceptibility of a Receiver to Intermodulation Interference	81	28
A.B. Gusev: A Superconducting Quantum Magnetometer with a Parametrically Regenerated Network	84	31
O.V. Gofayzen, I.P. Panfilov and V.V. Skopenko: Estimate of Linear Distortions from the Weighted Impulse Response	87	34

	Page English	Russian
Yu. I. Sharapov: Frequency Conversion without Parasitic Combination Components	91	38
Ye. V. Zadedyurin: Determination of the Convergence of Volterra — Wiener Functional Series when Analyzing the Nonlinear Characteristics of Amplifiers	98	45
V.A. Ustinov: An Investigation of Systems with Parametric Feedback by the Volterra-Series Method	101	47
Ya. G. Brativnyk, Yu. A. Grib and I.S. Sorokevich: Influence of the High-Voltage Rectifier on a Horizontal Scanning Generator	103	49
A.I. Logvin and S.V. Nebusev: Noise Immunity of Minimal Frequency-Shift Signals	106	49
A.I. Ovcharenko: Optimization of the Parameters of a Cancellation Channel in Variable-Signal Demodulators	111	55
M.V. Zarubinskiy and Ye. S. Poberezhskiy: Formation of Readouts of Quadrature Components in Digital Receivers	115	59
S.I. Timoshenko: Evaluation of the Logarithm of the Likelihood Ratio, Averaged over Unknown Parameters	119	63
M.I. Veselkov, V.V. Rogozin and S.A. Tret'yakov: Approximation Design of Meander Strip Lines	121	65
V.N. Il'yushenko: Potential Characteristics of Some Structures of Electrically Controlled Attenuators	124	69
G.A. Yerokhin, V.G. Kocherzhevskiy and V.G. Gofman: Design of an Efficient Surface-Wave Exciter	128	72
V.I. Orlov and S.A. Rozanov: Adaptive Coherent Addition of Signals in Diversity Reception	131	75
I.V. Lebedev, E.I. Kuptsov and M.N. Gorin: A Microwave Power Diode Stabilizer	134	78
V.S. Mironov: Superconducting RF Cable Devices for Testing Radioelectronic Equipment	136	80
V.G. Maksimenko: Optimization of an Input Transformer	139	81
V.M. Bogachev, M.V. Volkov and N.G. Yurchak: Analytic Theory of Four-poles and Its Applications	143	84
S.D. Vorob'ev: Space Correlation Properties of Randomly Anisotropic Noisy Fields	145	90
E.M. Zhurbenko: The Field of a Plane Ring Magnetic Current	149	94

NUMBER 3

PART 1
TELECOMMUNICATIONS
Volume 40

Yu. I. Zagashev, N.B. Mikhalina, G.F. Bal'kin and M.N. Sapunkov: Compression and Sensitivity Coefficients for Errors Occurring when Coding Machine- and Hand-Written Texts	1	13
WIRE AND RADIO BROADCASTING		
V.M. Rozov: Power Efficiency of Broadcasting Systems	4	15
G.P. Katunin, G.I. Nikonov, A.F. Privalov and S.F. Pushkin: The Selection of a Method for Identifying Broadcast Programs	9	19
V.M. Kibakin: A Transistor Power Amplifier in a Wire Broadcasting System	12	21
DIGITAL COMMUNICATION SYSTEMS		
V.E. Gurevich and A. Ye. Nazimok: Evaluation of Computer Methods for Calculating Error Probability in Digital Pulse Regenerators	16	25
I. Ye. Baydan, B.V. Karpukhin, Yu. A. Pavlichenko and O.O. Spozito: Effect of Clock Synchronization Accuracy on Digital Signal Regeneration Fidelity	19	28

	Page English	Page Russian
V.N. Gordiyenko, B.I. Zimin and S.S. Tsvetkov: A Method of Evaluating the Statistical Parameters of a Remote Control System for a DTS Linear Channel	24	31
COMMUNICATIONS SYSTEMS AND NETWORKS		
T.P. Sergeyeva: Automation of Planning for the Development of Trunk Primary Networks for the Five-Year Plan	28	34
A.A. Monin and V.N. Shakin: Methods of Increasing the Efficiency of Simulated Programming Models of Data Networks	34	38
N.I. Artyukhin, R.K. Kvrivishvili and R.N. Mzhavanadze: Redistribution of Channels in Multiport Digital Transmission Systems	39	45
L.A. Vorob'yev, V.V. Zyablitsev and N.G. Pochinchuk: Some Results of Investigations of Pulsed Noise in the Physical Lines of a City Telephone Exchange	44	49
PART 2 RADIO ENGINEERING Volume 41		
B.S. Rybakov: Correlation Coefficients of the Envelope and Phase of a Signal for Periodically Nonstationary Gaussian Noise	48	3
Ye. N. Anisimov and B.A. Astashkevich: Limitations of the Power Series Method in Extremely Nonlinear Radio Engineering Problems	53	8
BRIEF COMMUNICATIONS		
G.M. Bashin, A.N. Dmitriyenko and V.M. Timishchenko: Multialternative Detection of Signals in the Presence of Nonstationary Interference	58	14
I. Ya. Kremer and S.M. Shapiro: Effectiveness of an Optimum Space-Time Signal-Processing Algorithm for Inaccurately Determined Parameters of the External Interference Source	60	16
V.I. Vorob'yev and A.V. Klimov: Assessment of the Phase Characteristics of Reflections from Objects in Multifrequency Radar in the Case of Multipath Signal Propagation	64	19
V.I. Tislenko and Yu. V. Martyshevskiy: The Maximum Error in Tracking a Luminous Object by a Television Tracking System	67	22
T.G. Belyavskaya, E.A. Krogius, Yu. P. Levchuk and Ye. P. Okhinchenko: Modeling of a Digital Adaptive Delta Encoder with Companding	71	26
E.S. Litvak: Comparative Analysis and Synthesis of Nonlinearities for Oscillatory Systems with Low Values of the Harmonic Factor	72	27
V.N. Bezrukov and V.S. Belyayev: A Method of Reducing Phase Distortions in Linear Television Stages	74	28
Yu. I. Sharapov: Shifting the Frequency Band of an Input Signal by Double Conversion when $F_{IF_1} = F_{h_1} + F_{c_1}$, if $F_{h_1} > F_{c_1}$ and $F_{IF_2} = F_{c_2} - F_{h_2}$, if $F_{c_2} > F_{h_2}$ without Harmonic and Combination Components in the Converter Passbands	77	31
V.I. Kaganov and S.N. Zamuruyev: Determination of the Phase Response of a High-Frequency Transistor Amplifier	79	34
A.V. Bezrukov: Phase Detector Response to a Sinusoidal Signal in Narrow-Band Noise	82	37
L.N. Beskin: Pseudorecursive Digital Filters	83	38
B.V. Degterev: Automation of the Representation of Amplitude Characteristics by Polynomials	86	41
A.B. Yermolovich and V.V. Petrov: Magnetic Head Positioning with an Optical Raster	90	44
M.N. Gol'denberg, M.N. Polyak and A.A. Berestetskiy: A Method for Calculating Optimal Window Functions	91	45
A.M. German and E.A. Grishina: A Quasioptimum Space-Time Processing Algorithm for Wideband Signals	95	40

	Page English	Russian
A.I. Turkin: An Iterative Decoding Algorithm for Linear Codes in a Semicontinuous Communications Channel	98	43
V.V. Bortnikov and A.V. Romanov: Optimization and Noise Immunity of Recurrent Algorithms for the Diversity Reception of PSK Signals	100	45
V.V. Shirokov: Regularization of Signal-to-Noise Ratio Estimates Produced by an Indirect Method Using Sign-Statistics	104	48
V.V. Blatov: The Probability Distribution of the Instantaneous Frequency of the Sum of a Signal and Narrow-Band Noise	107	51
A.S. Sukhorukov: Signal Separation in a Multibeam Channel Using Narrowband Signals and Differentiation on Reception	111	55
A.A. Yashin: A Universal Method of Analyzing Strip Lines in a Quasi-T Approximation Taking the Actual Configuration of the Conductors into Account	114	58
L.N. Vershinina and M.P. Parkhomenko: An Isolator Based on a Strip-Type Dielectric Waveguide for the Shortwave Section of the Millimeter Waveband	116	59
V.V. Korsunov: A Numerical Analysis of Reflection Diffraction Gratings	119	62
V.P. Modenov: The Resonant Properties of a Dielectric Cylinder in a Circular Waveguide	122	64
A.A. Vorontsov and S.D. Mirovitskaya: Plane-Wave Diffraction in Large-Radius Dielectric Cylinders	124	66
V.A. Vanke, S.K. Lesota and A.V. Rachnikov: The Design of a Microwave Beam Energy Transmission Channel	127	69
E.S. Golovin and Yu. Ya. Meremson: The Spatial Selection of Multiplicative Noise in Portable Radio Communications Networks	131	72
A.A. Berdnikov and A.G. Brusentsov: Modelling of Atmospheric Radio Interference with a Hall Distribution	135	83
V.A. Alebastrov, V.I. Bocharov, E.M. Zhulina, P.V. Kishcha and V.I. Kubov: Effect of the Auroral Zone on Signal Amplitude along Extended Links	137	85
V.D. Gusev, I. Yu. Zhidovlenko and L.I. Prikhod'ko: Polarization Structure of the Waves Scattered by Small-Scale Ionospheric Inhomogeneities	139	87
Yu. L. Koziratskiy, S.V. Potekhetskiy and A.V. Smirnov: Determination of the Number of Pulse Packets for a Lidar System	143	80
Yu. R. Nosov: Electrooptical Voltaic Decoupling Devices for Communications Engineering	146	82
FOR THE ENGINEER		
N.B. Dogadin and V.N. Nogin: An Amplifier with Improved Efficiency without Coil Devices	149	85
Yu. L. Simonov, A. Yu. Simonov and V.V. Zhmurov: Analysis of an Amplitude Detector Based on a DC Isolated Diode	152	88
A.V. Burakov and A.D. Viktorov: The Noise Immunity of Quasioptimum Harmonic Signal Detectors	155	90

NUMBER 4

PART 1
TELECOMMUNICATIONS
Volume 40

CIRCUIT THEORY AND FILTERS

A. Ye. Znamenskiy: Design of Coupled-Circuit Filters using a Microcomputer	1	55
H. Eigler: Design Criteria for Nonrecursive Filters Based on Charge-coupled Devices	6	59
V.V. Khristich: A Generalized Quadrature Filter	8	60

	Page English	Russian
SWITCHING AND TELEPHONES		
T.G. Samkharadze, V.S. Markov, A.V. Bulanov and V.O. Zhoglo: The KVANT Quasi-Electronic Automatic Telephone Office	12	18
COMMUNICATIONS SYSTEMS AND NETWORKS		
S.V. Borodich: EMC Criteria and Conditions for Satellite and Radio Relay Communications	18	28
A.A. Kayatskas: Systems Engineering Questions on Frequency-Time Provision for Digital Communications Networks	23	31
FIBER-OPTIC COMMUNICATIONS SYSTEMS		
M.I. Belovolov, A.G. Kabedzhiyev and A.V. Kuznetsov: Highly Directional V-Type Fiber-Optic Couplers with Low Losses for Duplex Fiber-Optic Communication Lines	27	35
S.M. Vernik: Methods of Grouping Optical Fibers in Fiber-Optic Communications Lines	32	39
T.A. Martynova and G.A. Cherenkov: The Effect of Technological Defects on Losses in a Fiber-Optic Cable	37	43
A.B. Semenov: Nonlinear Distortions of Signals in Fiber-Optic Communications Lines	42	46
R.M. Sharafutdinov: The Noise Immunity of the Regenerator of a Transmission System with Spectral Division of the Optical Channels	45	48
MULTICHANNEL COMMUNICATIONS		
T.D. Grin'ko, V.K. Kuznetsov, N.M. Korobitsina and I.E. Mach: Study of Power Control Processes in a Multiresonator Klystron Microwave Transmitter	48	51
A.I. Borisov and A.V. Kogan: Evaluation of Analog Transmission Channel Amplitude Response by Means of a Sinusoidal Signal	54	57
PART 2 RADIO ENGINEERING Volume 41		
O.D Barantseva: Homogeneous Microwave Designs for High-Speed Computers	60	3
V.I. Kapustyan: Sensitivity of Active RC Filters Simulating LC Prototypes	66	9
Yu. A. Korchagin and I.P. Rozmanov: VLF Surface Antennas on Surface Protuberances	72	15
BRIEF COMMUNICATIONS		
A.I. Breus and A.L. Kosova: The Effect of Generalized Receiver Parameters on the Reliability of Discrete Phase-Modulated Communication Systems	77	20
P.V. Gorev and A.P. Koldanov: Detection of a Deterministic Signal in Piecewise-Stationary Interference	79	22
Yu. A. Solov'yev: Potential Accuracy of a Centralized Active-Synchronization Algorithm	83	25
A.N. Katulev and V.Z. Bogdanchuk: Potential Resolution of a Moving-Target Radio System with *a priori* Uncertainty	86	27
Sh. M. Alekperova, V.A. Vetkhov, G.S. Gadzhieva, F.D. Kasimov and V.M. Mamikonova: Negative Resistance and Switching Effects in Metal-Dielectric-Metal and Metal-Semiconductor-Metal Film Structures	89	32
Ya. M. Koval'chuk and G.K. Chigar'kov: The Uniting Static Characteristics of Multichannel Adaptive Compensators	92	35
V.I. Gostev and A.N. Morozov: The Stability of an Autocompensator for Sinusoidal Interference	94	37
G.V. Tatarnikova and V.D. Shalfeyev: Study of the Statistical Dynamics of Phase Sync Systems	97	40

	Page English	Page Russian
Yu. D. Bolmusov and Yu. F. Pavlenko: Distortion of FM Signals in a Nonlinear Oscillatory Circuits	101	43
N.V. Shiyanov: A Phase-Stable Attenuator	103	45
V.V. Rogozin, A.O. Fadeyev and T.G. Kharina: Optimization of Broadband Ferrite Filters	106	48
G.N. Anikeyenko and I.O. Pavlichenko: Estimation of the Noise Immunity of Communications Systems with Repeated Use of the Same Frequency	108	49
V.S. Girshov: Noise Immunity of Coherent Reception of Multiposition PSK Signals in Fading Channels	110	52
Yu. V. Arzumanyan, A.A. Zakharov and M. Ya. Lesman: Statistical Modeling of Signal-to-Noise Ratio Estimation Algorithms	114	55
G.A. Borodin, A.K. Stolyarov and V.A. Ivanov: The Redundancy of Multidigit Error Correction Codes	117	58
G.A. Makarov: A Comparative Analysis of the Effectiveness of Sampling Variances	121	61
Yu. G. Vasil'yev: The Influence of Attenuation on the Operation of Acoustooptical Signal Processing Systems for a Linear Phased Antenna Array	125	65
M.I. Kontorovich, S.A. Tretyakov and A.S. Cherepanov: An Averaging Method for Multistrip Lines on a Ferrite Substrate	129	68
V.A. Borodayev, N.V. Lyapunov, V.V. Tarakhno and A.I. Aristarkhov: Design of Bandpass Dielectric-Resonator Filters	132	71
V.R. Zhezherin and L.V. Knyazev: The Use of Analog Linear Frequency Modulated Signals for Atmospheric Sounding	135	74
V.G. Grigor'ev and V.A. Kon'kov: The Errors of a Statistical Analysis of Fading in a Tropospheric Radio Channel	138	77
V.P. Kudin: An Electrodynamic Analysis of a Two-Conductor Line Loaded by a System of Dipoles	141	89
A.E. Gudilin: The Error in Determining the Frequency Deviation of a Frequency Modulation-Pulse Frequency Modulation Signal	144	92
Yu. N. Favorov and E.I. Yegorov: An Evaluation of the Performance of Radio Receivers during Electromagnetic Compatibility Testing	147	95
A.P. Kalmakov: A Method of Estimating the Total Industrial Radio Interference with Random Levels of Various Noise Components	149	91
V.I. Afromeyev and Yu. A. Pokrovskiy: A Rapid Method of Measuring Relative Permittivity	152	94

NUMBER 5

PART 1
TELECOMMUNICATIONS
Volume 40

COMMUNICATIONS NETWORKS. DATA TRANSMISSION

V.O. Shvartsman: Computer Data Networks and Data Transmission Networks	1	2
L.N. Afanas'yev, Ye. D. Kashayev, V.P. Klimin, N.P. Mironov, N.N. Ol'shevskiy, G.B. Seleznev, A.V. Starovoytov, B.V. Sultanov and S.L. Shutov: A Digital Signal Converter for a VF Channel at a Rate of 9600 BPS	8	8
S.I. Alyab'yev and L.V. Muravnik: A Coding Method for Channels with Intersymbol Interference	12	15

AUTOMATIC SWITCHING AND TELEPHONY

Yu. S. Tat'yanin, A.N. Gaponov and V.A. Bikkard: Subscriber Translator Equipment	17	20
N.A. Sokolov: An Estimate of the Carrying Capacity of a Common Channel Signaling System	21	23
A.V. Minin and Yu. N. Prokhorov: An Estimate of the Parameters of Speech Signals using the Method of Least Squares with Limitations	25	26

	Page English	Russian
TRUNK RADIOLINKS		
V.P. Bylinkin, A.P. Nushtayev and Ye. F. Shnyrev: A Frequency Synthesizer for Equipment for Measuring the Quality of Radio Transmitters in Trunk Communications	30	30
V.V. Zorin and V.N. Talyzin: A Method of Studying the Data Load of Dispatcher Communications Channels	34	33
CONTROLS AND MEASUREMENTS		
K.N. Martyshevskiy and V.P. Mushkov: Automatic Monitoring of Receiver Frequency Responses without Interruption of Communications	38	36
S.V. Godlevskaya, A.V. Kolesov, T.M. Mazurina and I.V. Reznikov: A Wide-Band Active Probe	42	39
Yu. A. Lada and D.I. Malinovskiy: A Digital Simulator of a Noisy Signal.	45	42
COMPONENTS AND CIRCUITS		
Yu. R. Nosov: New Types of Optron for Radio	48	44
O.M. Komarov: The Reliability of the SMZh-10 Connector	50	45
PROPAGATION OF ELECTROMAGNETIC WAVES		
Ye. A. Larin: Short-Term Statistics of Rain Attenuation	53	56
PART 2 RADIO ENGINEERING Volume 41		
A.S. Bogachev: Optimization of Algorithms for the Space-and-Time Processing of Radio Signals	58	3
A.M. Lerer and G.N. Shelamov: Microwave Waveguide-Slot Resonators	63	7
A.M. Model and A. Yu. Savitskiy: Diffraction of the H_{10}-Mode of a Rectangular Waveguide by an Array of Circular Inductive Rods	69	13
BRIEF COMMUNICATIONS		
A.P. Bilenko and L.N. Volkov: Comparison of the Noise Immunity of Radio Links Using Broadband Signals	75	19
V.I. Denisov: Operating Algorithms of the Transmitter-Receivers of a Ship-to-Buoy Buoy-to-Ship System	78	21
L. Ye. Varakin and A. Yu. Goncharenko: Adjacent Channel Interference in a Honeycomb Mobile Communications System	81	24
N.A. Sazonov: Characteristics of Synthetic Aperture Radars	84	28
Yu. A. Bryukhanov: Reduction of the Transient Duration in a Bandpass Amplifier	89	31
Ye. N. Mokhov: Design of an Amplifier Stage with Emitter Correction	92	34
B.A. Putilov: Parasitic Inductive Interactions in Hybrid Integrated Circuits	96	37
A.N. Zinov'yev and V.V. Shestakov: A Time-Delay Device for a Digital Communications System	99	32
I.A. Zaulin and V.P. Ponomarenko: Analysis of Tracking Loss and Acquisition Processes in a Delay-Synchronization System Subject to Nonrandom Interference	101	34
N.P. Ionov, B.V. Kazakov and M.N. Platonov: A Light-Emitting Diode Planar Television Screen	104	37
M.I. Bogdanovich: Millisecond One-Shots Using Transistor Analogs of *p-n-p-n* Structures	107	39
V.E. Gurevich and I.A. Stefanova: Transients in a Tuned Circuit Subject to a Video Pulse-Code Sequence	110	42

	Page English	Russian
A.A. Borodyanskiy and V.N. Drynkin: Design of Multidimensional Recursive/ Nonrecursive Digital Filters	114	47
S.V. Zagryadskiy and V.V. Rogozin: An Approximate Method of Computing the Amplitudes of Magnetostatic Oscillations in Small Ferrite Samples	119	51
V.A. Pertseva, I.V. Sitnyakovskiy and A.L. Nekhayev: Modified Adaptive Differential Pulse-Code Modulation for Speech Transmission	121	53
V.P. Sedyakin, K.K. Katsari and V.N. Linnik: The Bias of an Estimate of the Correlation Function for Certain Random Signals	124	69
M.N. Yatsimirskiy and O.I. Petrishin: The Features of the Application of Base-Two Fast Algorithms to Two-Dimensional Fourier Transforms	126	71
Ya. M. Koval'chuk and A.N. Kubasov: An Algorithm for Modeling Nonsteady-State Random Processes	131	75
A.P. Trifonov and Yu. V. Nevezhin: The Characteristics of a Bayes Estimate with Several Hypotheses on an Observed Process	134	78
V.N. Mitrokhin: Critical Intrinsic Cross Sections and Modes of Conical Waveguides	137	73
A.A. Press: Self-Impedance of a Electric Dipole Located Near an Infinite Elliptic Cylinder Parallel to its Axis	139	75
V.K. Lipskiy: Features of the Calculation of the Propagation Constant of a Surface Wave along an Insulated Wire in a Conducting Medium	141	77
E.S. Kochanov and E.F. Zimin: Single-Electrode Electric-Field Meters	144	79
I.T. Bubukin: Th Detection of Quasi-Periodic Structures in the Ionosphere using Data on the Twinkling of Radio-Sources	147	82
N.V. Bakhmet'yeva, E.A. Benediktov, Yu. K. Gol'tsova and Yu. A. Igant'yev: Statistical Characteristics of the Amplitudes of Round-the-World Signals	149	84

NUMBER 6

PART 1
TELECOMMUNICATIONS
Volume 40

TELEVISION

B.V. Braude and D.M. Truskanov: The Use of Power Equalizers in TV Transmitting Antennas	1	14

COMMUNICATIONS NETWORKS

V.I. Glinka and Yu. I. Yemel'yanov: Integration of Electronic Automatic Telephone Exchanges into the Existing Networks	6	17
K.M. Mussel: Automation of the Information-Reference Service	15	24
B.S. Gol'dshteyn: An Engineering Estimate of the Capacity of a Microprocessor Input Discriminator in a Switching Center	18	27
M.A. Shneps-Shneppe and A.F. Petrov: Optimization of the Quality of Service of a Toll Telephone Network	22	30
V.L. Tarnopol'skiy and R.I. Muratova: Evaluation of TF Channels on the Basis of Distortions in TT Channels	27	34
Ye. V. Finkel: Selection of the Objective Function of an Algorithm for Constructing a Rational Diagnostics Strategy	31	37

FIBER OPTIC COMMUNICATIONS SYSTEMS

O.K. Sklyarov: The Influence of Fluctuations Arising during Signal Input on Noise in Optical Communications System Cables	34	39
P.A. Dem'yanenko, V.D. Nazarov, V.M. Polishchuk and A.G. Tereshchenko: Optical Beam Couplers Obtained by Grinding	39	43

	Page English	Page Russian
SIGNAL GENERATION AND CONVERSION		
V.P. Bagayev, A.V. Kosykh, A.N. Lepetayev and V.F. Samoylenko: A Two-Mode Crystal Oscillator with Digital Thermal Compensation.....	44	48
A.V. Pestryakov: Calculation of the Spectral Characteristics of Frequency Synthesizers Using Discrete Phase-Lock Loops.....	48	51
PART 2 RADIO ENGINEERING Volume 41		
Ye. V. Babkin: Effect of the Deemphasis Filter in FM Systems on the Signal-to-Fluctuation Noise Ratio in Television Channels.....	53	5
BRIEF COMMUNICATIONS		
A.V. Markin: Noise Immunity of an FM Radio-Communications System Using a Form of Cobmined Modulation.....	59	12
A.N. Katulev and V.V. Tukhvatulin: Selection of False Bearing Intersections in Angle Measuring Systems.....	62	16
O.B. Lur'ye: Transfer Functions of Networks with Operational Amplifiers.....	65	18
V.A. Bondar' and V.A. Suslov: An Electrostatic Scanning Generator with Separately Shaped Antiphase Deflecting Voltages.....	69	22
A.M. Bobkov and N.N. Yakovlev: Approximation of the Characteristic of a Nonlinear Inertialess Component.....	71	25
V.G. Zaytsev: Frequency-Selective Limiting in Paramagnetic Microwave Filters.....	74	27
M.I. Bocharov and O.P. Novozhilov: Synthesized Nonlinear Reactive Elements and Their Application.....	76	29
V. Yu. Belyayev, A.V. Gorelikov and V.V. Krokhin: Features of the Energy Characteristics of Continuous-Phase Frequency-Switched Radio Signals.....	79	55
A.I. Makarov: Quasicoherent Reception of Digital Signals with an Unknown Phase.....	84	60
O.T. Matyushin: Optimization of Discrete Signal Representation.....	87	63
Yu. S. Itskovich: Discrimination of Signals of Different Bandwidth.....	93	56
V.I. Baburov: The Design of an Optimum Filter for Extracting a Rereflected Signal	95	59
A.V. Shul'gin and Ya. M. Koval'chuk: The Statistical Characteristics of the Ratio of Correlated Rice Random Variables.....	97	60
V.M. Sovetov: A Multistage, Multicycle Routine for Searching for a Complex Signal with Expanded Analysis Cells.....	99	62
A.A. Bessarabova: Increasing the Clock Frequency of *M*-Sequences.....	104	67
O.N. Partala: The Formation of Oscillating Signals Based on a Differential Equation for Systems Employing Amplitude Frequency Modulated Signals.....	107	69
Yu. G. Levchenko and M.S. Lokhvitskiy: An Estimate of the Pulse Response of a Channel Based on the Envelope of a Sequence.....	110	72
Yu. I. Sharapov: Shifting the Frequency Range of an Input Signal by Double Conversion with $F_{IF_1} = F_{c_1} + F_{h_1}$, IF $F_{c_1} > F_{h_1}$ and $F_{IF_2} = F_{c_2} - F_{h_2}$, IF $F_{c_2} > F_{h_2}$, without Intermodulation Components or Harmonic Components in Maximally Broad Converter Passbands.....	112	74
N.N. Aleshkevich, M.A. Vil'kotskiy and A.P. Grinchuk: Statistical Analysis of Antenna-System Characteristics Based on the Field on a Spherical Surface.....	113	81
S.S. Gigoyan and B.A. Murmuzhev: A Millimeter-Wave Ferrite Isolator on a Dielectric Surface Waveguide.....	116	84
M.V. Vershkov and B.M. Levin: The Effect of Metal Shipboard Structures on Antenna Characteristics.....	118	86

	Page English	Russian
V.S. Ivantsovskiy: Analysis of the Noise Immunity of Adaptive Antenna Arrays	121	75
V.V. Korsunov: Resonance Properties of Wave Fields, Scattered at the Periodically Irregular Interface of Dielectric Media	124	78
O.N. Maslov: Modelling of the Statistical Properties of a Decameter Band Radio Signal	126	80
I.I. Drobyshev, V.P. Meshchanov, I.N. Saliy, S.A. Saliy, I.A. Tsots, and L.V. Shikova: Experimental Study of Microstrip Devices Based on New Structures	129	83
A.F. Churzin: Fast Fourier Transformation Algorithms for Aperture Synthesis	131	85
S.N. Polikarpov: Standard Spherical Reflectors for Calibrating Amplitude Channels of Radar Target Scattering-Matrix Measuring Systems	133	87
A. Blushke and V.I. Vemin: The Effect of a Lower Limit for Photoreceiver Bandwidth on the Noise Immunity of a Fiber-Optic Communications System	136	88
B.G. Gorshkov, A. Yu. Kuzin and V.P. Kutakhov: Multitransit Ring Optical Fiber Interferometers	138	90
FOR THE ENGINEER		
A.N. Onishchenko: Calculation of Spurious Channel Frequencies in a Superheterodyne Receiver	142	90
Ye. S. Dmitriyevskiy, O.I. Illarionov, A.P. Kuteynikov and L.I. Smirnova: The Gain of a Standard Radar IF Amplifier	144	92
Ye. I. Chernov: Express Stability Analysis	147	93
In Honor of the Centenary of P.V. Shmakov: The Problem of 3D Color Television	150	95

NUMBER 7

PART 1
TELECOMMUNICATIONS
VOLUME 40

POWER SUPPLIES		
M.F. Kolkanov and L.F. Zakharov: A Single-Cycle Voltage Converter	1	47
THEORY OF SIGNAL TRANSMISSION		
Yu. N. Prokhorov and I.K. Anisimov: Study of ADPCM with Recurrent Preemphasis for Speech and Digital Message Transmission	6	53
V.V. Shirokov and B.V. Fedotov: Use of "Degenerate" Sequential Analysis in Digital Processing of Composite Signals	10	56
V.V. Vasyukov: The Harmonic Factor of an Optimal Sinusoidal-Like-Signal	13	58
SATELLITE AND TRUNK RADIO COMMUNICATIONS		
L. Ya. Kantor, V.M. Dorofeyev, V.I. D'yachkov and V.V. Loginov et. al. "Interchat:" A Channel-Forming Equipment of the "Intersat" Satellite Communications System	16	2
L.S. Vilenchik, M.I. Krivosheyev, B.A. Lokshin and Yu. D. Shavdiya: Measurement of Differential Distortions in the Video Channel of a Satellite Television System Using a Dispersion Signal	21	6
DECAMETER RADIO COMMUNICATIONS		
A Thematic Selection	26	14
Yu. F. Pelegov, S.I. Turetskiy and V.P. Repkin: Problems of Data Transmission in Automated Radio Links in the Decameter Band	27	14
O.V. Golovin: An Automated System of SW Radio Communications with a Repeater	32	19

	Page English	Page Russian
L.S. Kazanskiy and S.V. Muromov: Suppression of Interference in a Multi-beam Antenna Array in the SW Band	35	21
O.V. Golovin, V. Ye. Guzeyev and V.N. Repinskiy: Monitoring and Control of Zone Communication System Parameters over Service Channels	37	23
A.N. Bashmakov, N.N. Bashnakov and B.I. Kuz'min: Automation of the Power Design of SW Radio Links	42	27
B.I. Kuz'min and Yu. S. Rusin: Vector Optimization of Radio Communications Systems and Equipment	45	30
K.A. Semenov, V.A. Markov and G. Ye. Rumyantsev: Study of a Frequency-Adaptive Decameter Radio-Communications Circuit in Mobile Marine Service	49	32

PART 2
RADIO ENGINEERING
Volume 41

M.S. Yarlykov, M.A. Mironov and P.P. Filatov: Optimization of Algorithms for Eliminating Uncertainty in the Readouts of Pulsed-Phase Difference Range-Finding Systems	52	3
V.E. Romanov and A.N. Semenov: The Error in a High-Speed Averaging Device with a Finite Sampling Time in the Sampling-Memory Circuit	58	9

BRIEF COMMUNICATIONS

A.A. Pogodin: Unequal-Scale Models of Radar-Carrying Craft	64	15
P.V. Gorev: Comparison of Two Detectors of Random Signals in Non-Gaussian Noise	68	18
A. Ye. Kraskovskiy: A Single-Channel Algorithm for the Detection of Markov Signals with Unknown Arrival Time	70	20
B.I. Kuz'min: Optimization of Communication Systems and Equipment	74	24
I.P. Bukanov: Cascade Realizations of LFM-Signal Compression Filters	78	27
V.L. Lomakin, I.S. Savchenko and N.A. Tereshchenko: A Multithyristor High-Frequency Sinusoidal Signal Generator	80	32
I.I. Postnikov: Dynamic Inductance of Quartz HF Resonators with Anharmonic Oscillations	82	34
V.G. Shishkin, I.A. Markov and A.M. Kmita: Frequency Response of Piezoceramic Surface Acoustic Wave Filters	86	36
A.V. Bogoslovskiy and S.I. Miroshnichenko: The Equivalent Circuit of a Charge-Coupled Device in the Nondirectional Charge-Transport Mode	89	39
V.I. Gostev and A.N. Morozov: A Method of Determining the Range of Stability of Electrical Circuits with Periodically Varying Reactive Elements	91	42
G.V. Utochkin: Statistical Characteristics of the Components of the Equivalent Circuit of High-Frequency Bipolar Transistors	95	45
A.P. Gorbachev and A.M. Kupriyanov: Analysis of Nontraditional One- and Two-Loop Directional Filters	98	47
G.V. Tatarnikova and V.D. Shalfeyev: Statistical Characteristics of Phase-Lock Loop Systems with an Integrating Filter	101	50
A.A. Titov: Approximation of the Operating Behavior of the Limiting Frequency and Static Current Gain of a Bipolar Transistor	104	53
Yu. I. Alekseyev: Analysis of Oscillatory Processes in a Solid-State (Gunn) Oscillator with Automatic Frequency Conversion of a Perturbing Signals	106	55
A.L. Ryabtsov: Synthesis of an Optimum RF Pulsed Signal Receiver with Partial Signal Utilization	108	49
V.D. Rubtsov and A.N. Zaytsev: The Nonparametric Properties of a Phase Method of Receiving a Harmonic-Like Signal in Conditions of Combined Additive and Multiplicative Noise	111	52
V.N. Yarmolik: The Shift and Addition Property of *M*-Sequences	114	54
V.E. Gusakovskiy: The Generalized Uncertainty Function of a Pulse Train of Finite Length	117	57

	Page English	Russian
Z.M. Kanevskiy and V.P. Litvinenko: The Entropy Secrecy of Signals of Various Shape	120	60
V.M. Koshevoy: The Effectiveness of Estimating the Modulus of the Correlation Coefficient from a Single Sample	123	62
V. Yu. Anisimov: Selecting Solutions with Multiple Hypotheses in Conditions of Imprecise Losses	127	65
B.B. Bespalov: Calculation of the Structural Dimensions of Coupled Symmetrical Strip Lines	130	68
V.D. Gusev, I. Yu. Zhidovlenko and L.I. Prikhod'ko: Radio-Wave Reflection and Scattering in the Ionosphere Sporadic E_s Layer	133	71
V.L. Gostyukhin: Fluctuation Characteristics of Active Phased Antenna Arrays (PAA)	136	74
Yu. V. Alekseyev, B. Ye. Zhelezovskiy, T.A. Kapitonova and M. Ye. Shneider: A Matched Waveguide Frequency Separator	140	77
V.V. Korovkin, S.V. Perminov and V.G. Tatsenko: A Light-Guide System for Connecting Computer Terminals	141	79
Yu. G. Vasil'yev, A.D. Kuptsov and V.N. Ryzhevnin: Determination of the Optical Decouplings Between the Channels of an Acousto-Optical Deflector	144	81
FOR THE ENGINEER		
E.L. Priver: An Amplifier for an Oscillator Power Automatic-Control System	147	84
B.G. Telezhnyi: The Probability of Unforeseen Interference in Radio Communications Equipment	148	85
R.E. Gut and V.V. Yegorov: Methods of Realizing the Discrete Hilbert Transformation	151	88

NUMBER 8

PART 1
TELECOMMUNICATIONS
Volume 40

COMMUNICATIONS NETWORKS AND SYSTEMS		
V.V. Shtager: Methods of Solving Extremal Problems when Optimizing Communications Systems	1	35
V.A. Yershov and N.A. Bondar: Optimization of Channel Bunches in a Network by the Random-Search Method	7	44
MULTICHANNEL WIRE COMMUNICATIONS		
A.I. Milin, I.F. Zabelin, A.S. Prodan and A.G. Mozel': Digital Line Channel of Primary DTS for a Rural Network	13	51
D.G. Tunev: A Multilevel Code for Digital Transmission Systems	19	56
MULTICHANNEL COMMUNICATIONS		
V.K. Ashirov, Ye. D. Pankratov and A.I. Rakov: A Systematic Approach to the Optimization of the Design of Line-of-Sight Radio-Relay Links	25	10
I.A. Zhosan, A.A. Kozhinskiy and A. Yu. Lapidus: A Computer-Aided Engineering Line for Designing Line-of-Sight Radio Relay Links	29	13
COMMUNICATIONS LINES		
V.V. Bystrov, Yu. A. Parfenov, L.G. Rysin and N.L. Sherman: Cables with Copper-Aluminum Conductors for Rural Communications	34	23

	Page English	Page Russian
L.D. Razumov: The Screening Action of Wires Under the Galvanic Influence of Electrical Transmission Lines	38	29
COMPONENTS AND CIRCUITS		
L.A. Bessonova, S. Ye. London and S.V. Tomashevich: A Broadband Four-Channel Device for Distributing HF Power	42	41
S.A. Garyainov and A.S. Garyainov: The Nature of the Inductance and Negative Resistance in Devices with an *S*-Shaped Current-Voltage Characteristic	47	44
V.I. Gvozdev, M. Yu. Litvinenko and V.B. Sedletskiy: Features of the Design of Miniature Single-Sideband Microwave Modulators	53	48
Part 2 RADIO ENGINEERING Volume 41		
E.A. Al'khovskiy, A.A. Il'inskiy and Yu. Ya. Kharlanov: Investigation of Cocoon-Shaped Waveguides	56	3
V.A. Geranin, L.I. Kotlyar and P.A. Markelov: Rounding Noise in an *M*-Stage Recursive Digital Filter	63	10
BRIEF COMMUNICATIONS		
P.P. Filatov: Synthesis of Optimum Processors of Pulsed RF Signals in Long-Range Radio Navigation Systems	68	16
I.D. Vul'man: The Use of Multichannel Design to Improve Radio-Engineering System Effectiveness	72	20
I.S. Dzesov, M.V. Kapranov and G.A. Leonov: Estimates of the Regions of Attraction of the Operating Modes of AFC Systems	76	23
N.A. Litsarev: A Method of Approximately Assessing the Error Probability in Systems with a Nonlinear Repeater	79	26
Yu. B. Okunev and N.M. Sidorov: Noise Immunity of a Carrier-Frequency-Invariant Demodulator of DPSK-2 Signals	81	28
V.A. Musiyachenko: Microwave Controlled Amplifier-Attenuator Using a Tunnel Diode	84	31
A.Z. Khaykov: Klystron Multiresonator Output-Circuit Parameters for a Negative Electronic Load Conductance	86	33
V.N. Nikitin and V.M. Nasibullin: Calculation of the Parameters of a Pseudo-Error Detector in Digital Data Transmission Systems	88	34
M.I. Bogdanovich and I.N. Grel': Characteristic Features of Transistor Analogs of a *p-n-p-n* Structure for Use in Pulsed Circuits	90	37
G.A. Yufit and A.I. Smutov: Tracking-Filter Retuning Frequency Characteristics	93	39
V.S. Golikov, I.G. Artemenko and A.P. Malinin: Comparative Effectiveness of a Cyclical Period-to-Period Subtraction Algorithm	96	41
V.V. Maslennikov and A.P. Sirotkin: The Stability of Second-Order Filters	98	44
T.S. Fedosova: An Analysis of Phase Synchronization Systems with Two Periodic Nonlinearities	102	46
Yu. S. Cherkashin: The Design of Inductance Coils for High-Power Radio Devices	104	48
S.F. Glagolev, V.B. Rudnitskiy and V.R. Sumkin: Analysis of Photoreceivers in Optical Pulsed Signal Detection	105	27
R.D. Gritskiv and A. Ye. Znamenskiy: Exact Synthesis of Coupled-Circuit Bandpass Filters	108	29
Yu. I. Sharapov: A Multichannel Receiver without Combination or Harmonic Components	111	33
Ya. Ye. Zil'berberg and N.T. Olegova: Approximation Frequency-Network Synthesis	120	40
Ye. A. Volkov and Kh. Sh. Kul'bikayan: A Synchronous Signal Generator using a Tunnel Diode in the Frequency-Division Mode	124	43

	Page English	Russian
V.M. Petrov and T.G. Vyatkina: Signal Processing in Multistation Radar Systems	127	46
A.V. Andriyanov: FFT-Based Spectral Analysis	130	49
L.A. Yershov and A.G. Glushenko: Application of the Functional Integration Method to the Analysis of Nonlinear Inertialess Conversions of Random Processes	132	74
G.N. Gromov, V.V. Gavrishchuk, R.V. Drozdov, Yu. T. Krivoruchko, B.V. Ponomarenko and L.I. Chukanov: Radio-Navigation Measurers Based on the K588-Series Microprocessor Set	136	77
Yu. A. Yerukhimovich and I.L. Nepomnyashchiy: A Method of Reducing the Level of the First Sidelobes in Aperture Antennas	139	80
A.M. Donets and V.N. Fedosov: Constructional Features of Antennas with Magnetic Cores in the Form of Tapes	144	85
FOR THE ENGINEER		
Centenary of the V.I. Ul'yanov (Lenin) Electrotechical Institute of Leningrad	147	91
E.A. Ibatullin: Calculation of Interference Threshold Powers at the Receiver Output	152	94
A.M. Prokhorov (On His 70th Birthday)	154	95

NUMBER 9

PART 1
TELECOMMUNICATIONS
Volume 40

DATA TRANSMISSION		
L.K. Kiselev, L.I. Zubovskiy and R.N. Butkovskaya: Results of Investigation of the Autocorrelation Properties of Flows of Erroneous Blocks of Data	1	34
D.R. Andudinov and S.L. Portnoy: Majorant Block Code Codecs	6	37
CIRCUIT THEORY AND FILTERS		
D.A. Borovinskaya, G.A. Nilova and I.N. Yukhno: Design and Manufacture of Precision Monolithic Quartz Filters	11	51
V.B. Kozyrev: Pseudo-Supplementary Polynomial Filters	15	54
G.N. Yergiyev and A.M. Ivanitskiy: A Narrow-Band Two-Section Active Piezoelectric RC Filter	20	57
PROPAGATION OF ELECTROMAGNETIC WAVES. LOWER-LEVEL RADIO COMMUNICATIONS		
S.D. Pashkeyev, L.I. Bugayev and A.A. Monin: Methods of Controlling the Technical Servicing of Communications Network Sections	23	8
Yu. V. Dobin, L.I. Kayzer, Yu. A. Parfenov, N.L. Sherman and L.S. Chervyakov: Two-Quadded Cables in Rural Communications	29	15
N.D. Kalinin: An Investigation of the Electrical Strength of Insulation in the Balanced Cores of the MKT-4 Cable	32	17
S.V. Dulov and Yu. K. Smirnov: The Accuracy of Express Measurement of Error Probability in Digital Communications Lines	35	20
Yu. D. Seregin: Design of an Amplitude Corrector of the First Order for a Specified Attenuation Differential	39	22

	Page English	Russian
TELEGRAPHY. DATA TRANSMISSION		
K.A. Arenyan, R.A. Yepiskoposyan, S.N. Kanayan and A.M. Knacnatryan: Probability Estimation of the Efficiency Factors of an Automatic Telegraph Message Indexing System	42	25
PROPAGATION OF ELECTROMAGNETIC WAVES. LOWER-LEVEL RADIO COMMUNICATIONS		
V.N. Troitskiy: Backward Scattering of USW by the Slopes of Mountain Peaks and Ridges	47	48
L. Sh. Al'ter: Estimation of the Efficiency of Standardizing the EMC Parameters of Mobile Land Service Receiver-Transmitters	52	52
PART 2 RADIO ENGINEERING Volume 41		
K. Kholeyko and E. Syuzdan: Phase Measurements of Distances that Vary with Time	57	3
L.S. Vilenchik, M.I. Krivosheyev and Yu. D. Shavdiya: The Primary Principles of Digital Noise Suppression Theory in Television Channels	64	9
V.G. Bobenko and B.I. Kuz'min: A Generalized Form for Representing a Broad Class of Absolutely Continuous Distribution	70	15
BRIEF COMMUNICATIONS		
F.M. Dorokhov and V.P. Postyushkov: Centralized Control of the Power Resources of a Group of Radio Links	73	18
A.A. Spektor: Two-Stage Estimation of the Inhomogeneity of an Image Formed by a Line of Receivers	75	20
A.Z. Kiselev: The Use of the Non-Gaussian Nature of Spurious Reflections when Optimizing Post-Detection Alternate-Period Cancellation	78	51
A.P. Rodimov, V.V. Nikitchenko and L.M. Konovalov: A Spatial Processing Algorithm for Signals and Interference to Provide Electromagnetic Compatibility	81	54
V. Ya. Kontorovich: A Polymodel Approximation of Signal and Interference Distributions	84	56
L.N. Oganyan and B.N. Tikhonov: The Probability of the "Propagation" of a Dropout of Cyclic Synchronization in Digital Transmission Systems.	87	59
Ye. V. Belofortsev and A.K. Yakushev: Some Features of the Digital Correction of Dynamic Characteristics	90	62
V.B. Fortes: Distortion of Wideband Signals in an Antenna/Receiver System with Spatial and Frequency Fluctuations	93	65
R.E. Gut, Yu. B. Okunev and N.M. Sidorov: Effect of Carrier Detuning on the Noise Immunity of Autocorrelation Reception of DPSK Signals..	96	67
Ye. V. Voronov and N.I. Pilipchuk: Adaptive Quantization of a Speech Signal	99	70
M.R. Madarisov: Noise Characteristics of FET Amplifiers with Two Schottky Barrier Diodes	102	40
V. Sh. Arutyunyan, A.Z. Muradyan and M.A. Mkrtchyan: Multichannel Generators of Shifted Square Pulses with RC Integrating Circuits....	105	43
I.V. Fridlyand: Transients in an Oscillatory Section with Parametric Damping	109	46
E.I. Tochitskiyy, V.F. Surganov and G.G. Gorokh: Experimental Study of Thin-Film Aluminum Inductors	111	48
A.F. Churzin: Design of a Preliminary Filter for Digital Signal Processing in a Radar with Aperture Synthesis	113	49
R.R. Bikkenin: Noise Immunity of a Decoding System with a Guarantee in a Channel with Fadings	115	51
V.G. Tatsenko and I.A. Lipkin: Linear Estimate of the Frequency of a Frequency-Shift Keyed Signal with a Random and Fluctuating Center Frequency	119	54

	Page English	Page Russian
V.V. Gorshkov, S.Z. Karamov, S.A. Rubtsov and A.V. Sukhov: Determination of the Average Time of Search for the Delay of a Complex Signal in a Two-Level Search System	123	58
L.S. Levchenko and Yu. V. Sopel'nik: The Characteristics of the Detection of Noncoherent Signals with a Gamma-Distribution of the Energy Probability	125	59
Ye. P. Popechitelev and G.A. Yurkovskiy: A Method of Calculating Distribution Functions of Photometric Parameter Fluctuations	127	61
V.A. Ivanov: The Effectiveness and Integrity of Radio Systems	129	63
Yu. I. Sharapov: Comparative Characteristics of the Difference Modes of Frequency Conversion	132	66
M.I. Kontorovich and S.A. Tret'yakov: Approximate Analysis of Asymmetrical Striplines with an Anisotropic Backing	137	87
O.N. Tereshin, V.D. Dvurechenskiy, V.I. Mishin and A.S. Kuskov: Boundary Conditions for Impedance Structures formed by Reactively Loaded Tape-Line Sections	140	89
Yu. Ya. Kharlanov: Optimization of Cocoon-Shaped Waveguide Characteristics	142	73
Ye. L. Kazakov: Polarization Scattering Matrices of Targets when the Antenna Characteristics are Controlled	144	75
A.G. Vologdin and V.A. Smorodinov: Experimental Study of the Field of a Two-Mode Ionospheric Signal	147	77
V.V. Bodrov and V.I. Gridnev: Influence of a Dielectric Layer on the Characteristics of a Waveguide-Slot Antenna	149	93
Yu. Yu. Kulikov and V.G. Ryskin: Results of Measurements of the Optical Thickness of the Atmosphere in the Lines of the Ozone Rotational Spectrum	150	92
R.G. Tolparev and E.V. Borisov: A Modified Nonparametric Wilcoxson Detector	153	71

NUMBER 10

PART 1
TELECOMMUNICATIONS
Volume 40

ANTENNA-FEEDER DEVICES

M.V. Aleksandrov, V.K. Baranov, V.P. Val'd, B.N. Mukhin and V.S. Sanin: An Antenna of Improved Efficiency for the Ekran System	1	37
N.A. Reushkin: A Power Divider with Autotransformer Coupling	3	38

WIRE RADIO BROADCASTING

I.I. Avdeyev and P. Ya. Dubult: Correction of the AFR of Wire Broadcast Program Transmission Trunk Lines	6	41
S.P. Ashraf'yan and N.N. Shishkina: Reduction of Sound Broadcast Signal Power in the Group Channel of a Transmission System	9	46

SIGNAL GENERATION AND CONVERSION

A.A. Berestetskiy: Digital Methods of Generating Harmonic Signals	12	55
R.M. Rzhavina and B.A. Semanov: A Frequency Synthesizer	16	58

COMMUNICATIONS NETWORKS

V.M. Dubrovinskiy: Determination of Conditions for the Optimal Design of a Communications Network with Bypasses for Noncoincident Busy Hours	18	21

METHODS OF OPTIMIZATION

M.F. Abdurakhmanova and M. Sh. Zakhidov: The Optimal Construction of an Urban Telephone Network when it is Developed Stage-by-Stage	22	23

	Page English	Russian
MULTICHANNEL COMMUNICATIONS		
N.I. Kalashnikov, A.A. Kalinin and A.I. Kalinin: The Limits of Increasing the Density of a Network of Digital Radio-Relay Links	24	25
D.V. Mermel'shteyn: Optimization of the Passband of the Receiving Channel of an Eight-Trunk Radio-Relay System	30	29
O.P. Frolov: The Use of Attenuators in the Microwave Transmitting Channels of Radio-Relay Links	35	33
WIRE AND RADIO BROADCASTING		
A.A. Glukhov: The Influence of a Compressor on the Average Signal Power in a Broadcast Channel	38	36
B.K. Baranovskiy: Application of a Principle for Predicting the Expected Amplitude of a Signal to Control Low-Frequency Amplifier Parameters	43	40
PART 2 RADIO ENGINEERING Volume 41		
V.V. Solov'yev: A System of Radio-Spectrum Utilization-Efficiency Indices	49	3
V.N. Manzhos, V.N. Kokin and N.I. Kamchatnyy: A Quasi-Optimal Algorithm for Spatial Processing of Signals in an Adaptive Antenna Array of Large Dimensions	53	7
BRIEF COMMUNICATIONS		
V.A. Shaptsev: Regressive Models for Predicting the Quality of Binary Communications Channels	59	13
A.D. Kaluzhskiy and Yu. I. Voloshin: An Algorithm for Frequency Selection in a Radio Facility Collective	62	15
A.T. Abrarov, V.N. Antipov and G.S. Kondratenkov: The Accuracy of Radar Measurement of the Azimuth of a Moving Target	64	18
V.I. Merkulov: A Modified Algorithm for the Optimal Control of Radioelectronic Tracking Systems in the Letov-Kalman Formulation	68	21
V.Ya. Dvadnenko, V.A. Korobkin and Yu. P. Yurchenko: Experimental Investigation of a High-Q Screened Dielectric Resonator	70	22
M.I. Belovolov, Yu. L. Bessonov, A.N. Gur'yanov, G.G. Devyatykh, E.M. Dianov, V.I. Karpov, Yu. M. Kirik, M.I. Krivosheyev, A.V. Kuznetsov, Yu. I. Marimont, V.P. Minashin, A.M. Prokhorov, Yu. A. Kharitonova, V.F. Khopin, A.I. Shlayn and E.A. Shcherbakov: Interconnecting Fiber-Optic Communications Links for Transmitting High Quality Color Television Pictures	72	25
M.N. Berger: Microwave Filters with an Elliptic Amplitude Frequency Response	75	27
V.V. Denisenko: A Topological Transformation which Eliminates Ungrounded Voltage Sources in an Electrical Network	80	31
Yu. A. Grebenko and V.N. Lukin: Phase Discriminators with Linear Discrimination Characteristics	82	34
L. Sh. Al'ter: Allowable Level of Blocking Interference in a Wide Frequency Band	86	37
R.A. Pikshris, K.A. Piragas and A.V. Tamashyavichyus: Circuits for Converting an LC Oscillator into a Noise Generator	90	43
A.V. Khramov: Microwave Oscillator Design with GaAs Field-Effect Tetrodes	93	45
V.M. Rozov: Approximation of the Static Characteristics of Electron Devices	96	48
A.I. Sokolov and Yu. S. Yurchenko: Tracker Optimization	99	51
A.N. Sharov and M.A. Semisoshenko: Synthesis of an Adaptive Algorithm for Estimating the Characteristics of Radio Interference	103	54
V.P. Tuzlukov: Detection of a Deterministic Signal in a Noise Background	106	57
D.I. Lekhovitskiy and I.D. Rakov: Effectiveness of Adaptive Spatial Signal Processing with Time Correlation of Training Samples	110	60

	Page English	Page Russian
L.V. Labunets: Evaluation of the Distribution of the Duration of Bursts of a Single Class of Non-Gaussian Random Processes	113	64
D.B. Zimin, I.V. Kaplun and M. Yu. Kholshchevnikov: Measurement of the Gain of a Phased Antenna Array (PAA) by a Dynamic Method	117	80
G.A. Yerokhin and N.L. Lazarov: Improved Directivity of Traveling-Wave Antennas	120	82
Yu. M. Bezborodov and S.F. Massalitin: Dielectric Resonator Antenna Devices	123	85
N.A. Sazonov: Features of the Synthesis of an Antenna Aperture in the Case of any Aircraft Trajectory	126	89
V.A. Kravtsov: Admittance of a Longitudinal Slot on an Elliptic Cylinder	131	73
V.I. Klassen and G.V. Markin: A Geometrical Optics Analysis of the Potentialities of Hybrid Lens Antennas	134	76
V.L. Gostyukhin and K.G. Klimachev: Investigation of the Statistical Characteristics of Active Phased Antenna Arrays Allowing for Interaction among the Radiators	138	79
N.N. Gorobets, A.F. Lyakhovskiy and V.A. Somov: Approximate Analysis of Mirror Antenna Gain	141	82
G.G. Chavka and O.L. Zamulin: Synthesis of Multiband Matching Networks	144	84
V.V. Kopeykin: Dispersive Refraction of Space-Inhomogeneous Wave Packets	147	87
FOR THE ENGINEER		
V. Ya. Groshev: Analysis of the AFR of Operational Amplifiers with an Intermediate Composite Transistor Stage	151	94
A.F. Tereshchenko: A Practical Method of Calculating the Energy Characteristics of Autodynes	154	93

NUMBER 11

PART 1
TELECOMMUNICATIONS
Volume 40

FACSIMILE COMMUNICATIONS		
A.S. Adzhemov: Evaluation of the Efficiency of Asynchronous Transmission of a Facsimile Signal in a Synchronous Digital Channel	1	44
V.I. Golosnoy, G.F. Bal'kin, A.G. Zaychenko, V.S. Lyashevich, N.I. Kot and M.N. Sapunkov: Preprocessing of Video Signals when Transmitting Facsimile Information	6	48
COMMUNICATION LINES		
M.I. Belovolov, Ye. M. Dianov and A.P. Kryukov: A Module for the Efficient Coupling of the ILPN-204 Commercial Semiconductor Laser to a Single-Mode Fiber Lightguide	10	51
R.A. Alikhanyan, Zh. M. Mirzabekyan, Yu. A. Parfenov and G.A. Sarkisyan: Calculation of the Electrical Capacitance of Single-Pair Cables with Elliptical Insulation Cross-Section	13	53
K.F. Iskhakov, V.M. Sedov and S.N. Yerofeyev: A Method of Calculating the Transfer Functions in Coaxial Cable Communications Lines	17	56
NEW TELEPHONE SERVICES		
V.A. Gural'nik: Determination of the Quality of Rural Telephone Communications Based on Technical Diagnostics Data	22	26
A.A. Grabinskiy and Yu. Yu. Kriyevs: Effect of Transients on the Quality of Transmission of Control Signals at an Automatic Long-Distance Telephone Office	25	28

	Page English	Russian
MULTICHANNEL COMMUNICATIONS		
A.P. Protopopov and V.I. Cherepukhin: A Heterodyne for Microwave Transceivers in a Radio-Relay Station	28	35
V.V. Vasil'yev and V.E. Gurevich: Effect of Incoming Pulse Fluctuations on the Quality of Operation of a DTS Regenerator	32	38
V.F. Aleksandrov and O. Ya. Tetivko: Analysis of the Error in an Instrument for Measuring Reliability Losses in Digital Communications Channels	36	41
OPTICAL CABLE COMMUNICATIONS LINES		
Yu. V. Zavadskiy, V.M. Kovrigo, V.N. Korshunov and S.M. Novokhatko: Pneumatic Parameters of an Optical Cable	42	45
A.Z. Burakovskiy and I.L. Figurskaya: A Statistical Investigation of the Effect of Interference on the Synchronization Characteristics of Multichannel Signal Conversion Devices	45	48
A.M. Bograd, B.S. Danilov and L.G. Izrail'son: Selection of the Structure of a Signal Conversion Device Digital Transmitter	50	51
V.A. Vershinin and V.S. Lando: A Walsh-Function Device for the Digital Processing of a Group Signal	52	52
PART 2 RADIO ENGINEERING Volume 41		
V.B. Zotkin and D.L. Korobkov: Optimization of a Signaling System for Gaussian Channels with Intersymbol Interference	56	3
BRIEF COMMUNICATIONS		
S.L. Artemenkov and S.M. Smol'skiy: Synchronization of a High-Frequency Oscillator with an Emitter-Coupled Dual-Transistor Active Element	62	23
A.V. Bogoslovskiy and S.I. Miroshnichenko: Nonlinear Distortion in a CCD Acausal Filter	66	26
A.L. Ryabtsov: Gain Specification in Pulsed-Signal Receivers	68	28
M.A. Bykhovskiy: Application of Some Asymptotic Methods in the Theory of Phase-Lock Systems	71	30
S.S. Vdovin, S. Ye. Zirka and Yu. I. Moroz: Design of an Artificial Shaping Line with Antiresonant Tuned Circuits	76	35
V.N. Kuleshov and M.P. Savchenko: Frequency Pulling in an Oscillator with Back-to-Back Varactors	79	38
I.V. Gryaznykh and I.M. Shelomanov: A CCD-Array Optoelectronic Transversal Filter with a Binary Mask	82	40
L.N. Kazakov: Control of Transients in a High-Speed Frequency Synthesizer	85	12
L.N. Oganyan: Analysis of a Receiver Which Corrects Distorted Sync Symbols in a Cyclic Synchronization System	88	15
A.I. Perov: An Adaptive Tracker	91	17
P.L. Asovich, V.A. Ivanov and A.A. Solov'yev: The Use of Adaptive Predistortion to Improve the Linearity of Multichannel Wideband Amplifiers	94	20
P.S. Prikhod'ko and Yu. I. Shchetinin: A Method of Reducing the Power Density of a VLSI EPROM Using Thyristors	97	23
G.I. Fridman: Automatic Plate-Modulation in Single-Sideband Transmitters	101	26
L.I. Biberman: Dual-Threshold Signal Generation in Self-Excited Oscillators	104	29
A.V. Kolesov and Ye. S. Bugayets: Nonlinear Distortions of Oscilloscope Amplifier Stages	107	32
A.A. Aleksanyan, V.A. Aleksandrov and V.A. Galakhov: Distortions in Low Frequency Push-Pull Amplifiers with PWM	111	34
Ye. M. Dobychina: An Estimate of the Effect of the Phase Shifter Characteristic on the Accuracy of Phase Correction	114	37

	Page English	Russian
K.A. Semenov and V.N. Ryabyshkin: An Analysis of Matching Devices for Ship Shortwave Radio Transmitters	116	38
N.A. Nefedov: Effectiveness of Noise Suppression by a Two-Channel Auto-compensator with a Limiter in the Control Circuit Output	118	40
V.N. Kharisov and A.I. Fedorov: A Comparison of Approximation Methods in Nonlinear Filtering	121	43
V.A. Melititskiy, N.S. Akinshin, V.V. Melititskaya and A.V. Mikhailov: Statistical Characteristics of a Non-Gaussian Signal Envelope in Non-Gaussian Noise	125	47
A.I. Belichkin and S.N. Gerashchenko: Epsilon Entropy of Trajectory Information	129	51
A.K. Belotskiy: Effect of Deviation from Ideal of a Minimum FSK Signal Quadrature Shaper on Coherent Receiver Noise Immunity	132	54
Yu. I. Zhodzishskiy: Maximum Guaranteed Noise Immunity of Bit-by-Bit Reception with Limiting of Interference Mean Power	134	56
S.P. Gulin: The Modified Method of Volterra Functional Series	136	57
V.A. Yefimov, V.V. Isakevich and V.I. Klenov: Elimination of Inter-symbol Interference by Using Mutual Bases	139	60
Yu. T. Kotov, P.P. Mal'tsev and V.V. Khar'ko: Choice of LIC MP Sets on the Basis of the Minimax Criterion	141	62
V.M. Koshevoi: Adaptive Signal Processing under Stationary Noise Conditions	144	65
Ye. N. Mokhov: PSK Signal Processing by Microprocessor	145	66
A.P. Stepin and E.V. Borisov: Rank Detection of Optical Signals Using the Distribution-Function Scale Variation	149	90
G.G. Voyevodkin, Ye. M. Dianov, A.A. Kuznetsov and S.M. Nefedov: Transmission of Pictures over a Kilometer Fiber Lightguide by the Spectral-Temporal Encoding Method	151	91
N.T. Petrovich and N.D. Voronov: Data Transmission by Means of Walsh Signals with Differential Modulation	153	94
Letter to the Editor	156	95
A.A. Pistol'kors (On His 90th Birthday)	157	96

NUMBER 12

PART 1
TELECOMMUNICATIONS
Volume 40

SIGNAL GENERATION. CIRCUIT THEORY

V.F. Odinokov: A Frequency Variator	1	55
A.A. Baraksin and V.A. Kisel': A Local Corrector of Amplitude-Frequency Characteristics with Compensating Couplings	5	57

COMMUNICATION NETWORKS. SWITCHING OF TELEPHONY

A.A. Artamonov, V.G. Ivanov and I.N. Poryvayev: Frequency-Forming Equipment in Modern TV Radio Stations Recent Development	12	12
E.M. Fridman, I.V. Shelepen' and Ye. V. Erikson: A High-Quality FM Signal Driver	18	27
A.F. Ivanov: Calculation of the Parameters of Traveling-Wave Slot TV Antennas	23	31
Yu. M. Bolovintsev, M.A. Morgulis and Ye. L. Ryvkin: A Computer-Aided Control-Measurement System for TV Channels	29	35
Yu. M. Bolovintsev and M.A. Morgulis: Estimation of the Technical Effectiveness of Computer-Aided Control-Measurement Systems for TV Channels	34	39
Ya. Z. Superfin and V.V. Vil'yanov: Organization of Control and Monitoring in a Network of Low-Power TV Repeaters in the Unattended Mode	39	49

	Page English	Page Russian
N.A. Simonov and S.V. Naganyuk: A Heterodyne Frequency Synthesizer for Repeaters	41	51
V.L. Bykov, V.I. D'yachkov, E.I. Kumysh, V.S. Rabinovich, and N.G. Kharatishvili: Transmission of Two TV Programs in Analog and Digital Form in a Single EAS Trunk	44	54

PART 2
RADIO ENGINEERING
Volume 41

S.V. Novakovskiy: The Outlook for the Development of Television Systems with Superhigh Definition	52	3
I.N. Presnyakov, O.G. Rudenko and O.V. Sytnik: Adaptation of an Antenna Array Under Nonsteady-State Conditions	56	8

BRIEF COMMUNICATIONS

V.N. Golubev and V.G. Zimoglyad: Receiver Noise Immunity Evaluation using a Functional-Based Model with Probabilistic Transfer Characteristic	62	9
O.V. Golovin: Experimental Investigation of the Effectiveness of a System of Zonal SW Radio Communications with a Remote Radio Relay	65	13
V.A. Vanke, S.K. Lesota and A.V. Rachnikov: Optimization of a Channel for Power Transmission by a Microwave Beam	70	17
A.M Shloma and A.V. Mamonov: Optimal Reception of Discrete Signals in a Communications Channel with Frequency-Dependent Parameters	73	20
N.T. Petrovich and V.K. Raskin: The Protection of Pauses in Communication Systems with Phase-Shift Keyed Signals	77	24
I.P. Norenkov, V.A. Trudonoshin and V.G. Fedoruk: A Method of Generating Mathematical Models for the Adaptive Software Analysis of Electronic Circuits	80	67
V.L. Gutkin: An Efficiency Estimate of Signal Classification by Means of a Discrimination Device	85	60
A.S. Adzhemov and R.A. Khalidov: Distortion Storage in the Case of Asynchronous Transmission of a Digital Signal	88	63
V.V. Vatollo and A.N. Dmitriyenko: Adaptive Signal Detection Using Estimates of the Noise Distribution Quantile	92	66
V.M. Sovetov: A Multistage Multicycle Search Procedure for a Complex Signal with Two Thresholds	95	69
I.I. Gorban: Effect of the Finite Number of Digits in the Representation of Floating-Point Numbers on the Quality of Signal Processing in the Case of Multicomponent Interference	100	73
V.V. Durkin, V.N. Dovbnaya and Ye. N. Basin: Analysis of the Interference Induced by a Transformerless Voltage Converter	102	75
A.M. Grigoryan: Distribution of the Zeros in a Sampled Signal Spectrum	105	78
M.V. Voznitskiy, B.A. Yermakov, S.A. Rasskazov and F.I. Khaytun: Effectiveness of Transmitted Pulse Length Reduction in Avalanche Photodiode Systems	107	80
Ye. A. Arkhipov and A.K. Bernyukov: Homomorphic Filtering for the Resolution of Radio Navigational Signals and Overreflections	110	83
A.F. Chaplin and M. Yu. Mikhaylov: Superdirectional Parasitic Element Arrays	114	86
A.G. Antipin, I.M. Antoshkova and A.F. Puzankov: Row-Column Discrete Phasing of Antenna Arrays	117	70
G.N. Shelamov: Investigation of Microwave Waveguide-Strip Resonators	120	75
K.K. Belostotskaya, M.A. Vasil'yev and V.M. Legkov: Spatial Decoupling between Antennas on Model Bodies of Large Dimensions	123	77
I.V. Kuznetsov: Measurements of the Atmospheric Radiation Distribution during Snowfalls at 2.2 and 3.3 mm Wavelengths	125	79
A.I. Kozlov and Yu. K. Shestopalov: Multiple Reflection of Waves from an Uneven Surface	127	81
V.B. Fortes: Signal Correlation in Antennas of Different Aperture	128	82

	Page English	Russian
B.A. Panchenko, S.A. Baranov and V.D. Oshivalov: Edge Radiation of Metal Dielectric Structures	131	85
L.N. Loshakov and Yu. N. Pchel'nikov: Calculation of the Attenuation of an Electromagnetic Wave in a Screened Helix	133	87
V.I. Afromeyev, Yu. A. Pokrovskiy and Ye. I. Shalynkova: Calculation of the Intrinsic Q-Factor of Waveguide-Dielectric Resonators of Various Types Based on a Cutoff Waveguide	136	89
A.V. Marugin and A.V. Kharchev: A Study of the Modulation Characteristics of Laser Diodes	138	89
Yu. R. Nosov, B.N. Fayzulayev, V.A. Pavlychev and V.A. Gorin: Computer Coupling Using Volstrons	142	92